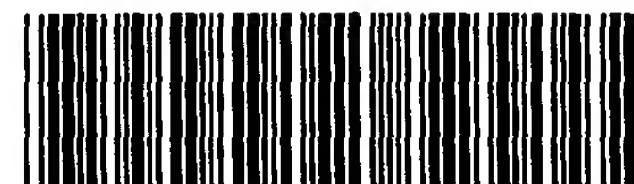


0590
0425



3

ENTERED

OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/023,782A

DATE: 04/23/2002

TIME: 08:40:25

Input Set : A:\RTS-343_Seq_ASCII.txt

Output Set: N:\CRF3\04232002\J023782A.raw

```

3 <110> APPLICANT: Lex M. Cowser
4      Susan M. Freier
6 <120> TITLE OF INVENTION: ANTISENSE MODULATION OF TFAP2C EXPRESSION
8 <130> FILE REFERENCE: RTS-0343
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/023,782A
C--> 10 <141> CURRENT FILING DATE: 2001-12-17
10 <160> NUMBER OF SEQ ID NOS: 87
13 <210> SEQ ID NO: 1
14 <211> LENGTH: 20
15 <212> TYPE: DNA
16 <213> ORGANISM: Artificial Sequence
18 <220> FEATURE:
20 <223> OTHER INFORMATION: Antisense Oligonucleotide
22 <400> SEQUENCE: 1
23 tccgtcatcg ctcctcaggg                                20
26 <210> SEQ ID NO: 2
27 <211> LENGTH: 20
28 <212> TYPE: DNA
29 <213> ORGANISM: Artificial Sequence
31 <220> FEATURE:
33 <223> OTHER INFORMATION: Antisense Oligonucleotide
35 <400> SEQUENCE: 2
36 atgcattctg cccccaagga                                20
39 <210> SEQ ID NO: 3
40 <211> LENGTH: 2804
41 <212> TYPE: DNA
42 <213> ORGANISM: Homo sapiens
44 <220> FEATURE:
46 <220> FEATURE:
47 <221> NAME/KEY: CDS
48 <222> LOCATION: (167)...(1519)
50 <400> SEQUENCE: 3
51 tcgcagagcc gccgatgcgt gtccagtgc cggacagca aggccgcgc gcggcggggg 60
53 cggcggcaga cgctgggtca ccgtgacccc gattttggat ttaccgcttg ggggctgggg 120
55 ggatcctgga tttaactggc gactgttttg ggggacgccg gacgcc atg ttg tgg 175
56                                     Met Leu Trp
57                                     1
59 aaa ata acc gat aat gtc aag tac gaa gag gac tgc gag gat cgc cac 223
60 Lys Ile Thr Asp Asn Val Lys Tyr Glu Glu Asp Cys Glu Asp Arg His
61      5              10              15
63 gac ggg agc agc aat ggg aat ccg cgg gtc ccc cac ctc tcc tcc gcc 271
64 Asp Gly Ser Ser Asn Gly Asn Pro Arg Val Pro His Leu Ser Ser Ala
65 20              25              30              35

```

RAW SEQUENCE LISTING

DATE: 04/23/2002

PATENT APPLICATION: US/10/023,782A

TIME: 08:40:25

Input Set : A:\RTS-343_Seq_ASCII.txt

Output Set: N:\CRF3\04232002\J023782A.raw

```

67 ggg cag cac ctc tac agc ccc gcg cca ccc ctc tcc cac act gga gtc      319
68 Gly Gln His Leu Tyr Ser Pro Ala Pro Pro Leu Ser His Thr Gly Val
69          40          45          50
71 gcc gaa tat cag ccg cca ccc tac ttt ccc cct ccc tac cag cag ctg      367
72 Ala Glu Tyr Gln Pro Pro Pro Tyr Phe Pro Pro Pro Tyr Gln Gln Leu
73          55          60          65
75 gcc tac tcc cag tcg gcc gac ccc tac tcg cat ctg ggg gaa gcg tac      415
76 Ala Tyr Ser Gln Ser Ala Asp Pro Tyr Ser His Leu Gly Glu Ala Tyr
77          70          75          80
79 gcc gcc gcc atc aac ccc ctg cac cag ccg gcg ccc aca ggc agc cag      463
80 Ala Ala Ala Ile Asn Pro Leu His Gln Pro Ala Pro Thr Gly Ser Gln
81          85          90          95
83 cag cag gcc tgg ccc ggc cgc cag agc cag gag gga gcg ggg ctg ccc      511
84 Gln Gln Ala Trp Pro Gly Arg Gln Ser Gln Glu Gly Ala Gly Leu Pro
85 100          105          110          115
87 tcg cac cac ggg cgc ccg gcc ggc cta ctg ccc cac ctc tcc ggg ctg      559
88 Ser His His Gly Arg Pro Ala Gly Leu Leu Pro His Leu Ser Gly Leu
89          120          125          130
91 gag gcg ggc gcg gtg agc gcc cgc agg gat gcc tac cgc cgc tcc gac      607
92 Glu Ala Gly Ala Val Ser Ala Arg Arg Asp Ala Tyr Arg Arg Ser Asp
93          135          140          145
95 ctg ctg ctg ccc cac gca cac gcc ctg gat gcc gcg ggc ctg gcc gag      655
96 Leu Leu Leu Pro His Ala His Ala Leu Asp Ala Ala Gly Leu Ala Glu
97          150          155          160
99 aac ctg ggg ctc cac gac atg cct cac cag atg gac gag gtg cag aat      703
100 Asn Leu Gly Leu His Asp Met Pro His Gln Met Asp Glu Val Gln Asn
101          165          170          175
103 gtc gac gac cag cac ctg ttg ctg cac gat cag aca gtc att cgc aaa      751
104 Val Asp Asp Gln His Leu Leu Leu His Asp Gln Thr Val Ile Arg Lys
105 180          185          190          195
107 ggt ccc att tcc atg acc aag aac cct ctg aac ctc ccc tgt cag aag      799
108 Gly Pro Ile Ser Met Thr Lys Asn Pro Leu Asn Leu Pro Cys Gln Lys
109          200          205          210
111 gag ctg gtg ggg gcc gta atg aac ccc act gag gtc ttc tgc tca gtc      847
112 Glu Leu Val Gly Ala Val Met Asn Pro Thr Glu Val Phe Cys Ser Val
113          215          220          225
115 cct gga aga ttg tcg ctc ctc agc tct acg tct aaa tac aaa gtg aca      895
116 Pro Gly Arg Leu Ser Leu Leu Ser Ser Thr Ser Lys Tyr Lys Val Thr
117          230          235          240
119 gtg gct gaa gta cag agg cga ctg tcc cca cct gaa tgc tta aat gcc      943
120 Val Ala Glu Val Gln Arg Arg Leu Ser Pro Pro Glu Cys Leu Asn Ala
121          245          250          255
123 tcg tta ctg gga ggt gtt ctc aga aga gcc aaa tcg aaa aat gga ggc      991
124 Ser Leu Leu Gly Gly Val Leu Arg Arg Ala Lys Ser Lys Asn Gly Gly
125 260          265          270          275
127 cgg tcc ttg cgg gag aag ttg gac aag atc ggg ttg aat ctt ccg gcc      1039
128 Arg Ser Leu Arg Glu Lys Leu Asp Lys Ile Gly Leu Asn Leu Pro Ala
129          280          285          290
131 ggg agg cgg aaa gcc gct cat gtg act ctc ctg aca tcc tta gta gaa      1087

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/023,782A

DATE: 04/23/2002

TIME: 08:40:25

Input Set : A:\RTS-343_Seq_ASCII.txt

Output Set: N:\CRF3\04232002\J023782A.raw

132	Gly	Arg	Arg	Lys	Ala	Ala	His	Val	Thr	Leu	Leu	Thr	Ser	Leu	Val	Glu	
133				295					300					305			
135	ggt	gaa	gct	gtt	cat	ttg	gct	agg	gac	ttt	gcc	tat	gtc	tgt	gaa	gcc	1135
136	Gly	Glu	Ala	Val	His	Leu	Ala	Arg	Asp	Phe	Ala	Tyr	Val	Cys	Glu	Ala	
137			310					315					320				
139	gaa	ttt	cct	agt	aaa	cca	gtg	gca	gaa	tat	tta	acc	aga	cct	cat	ctt	1183
140	Glu	Phe	Pro	Ser	Lys	Pro	Val	Ala	Glu	Tyr	Leu	Thr	Arg	Pro	His	Leu	
141		325					330					335					
143	gga	gga	cga	aat	gag	atg	gca	gct	agg	aag	aac	atg	cta	ttg	gcg	gcc	1231
144	Gly	Gly	Arg	Asn	Glu	Met	Ala	Ala	Arg	Lys	Asn	Met	Leu	Leu	Ala	Ala	
145	340					345					350					355	
147	cag	caa	ctg	tgt	aaa	gaa	ttc	aca	gaa	ctt	ctc	agc	caa	gac	cgg	aca	1279
148	Gln	Gln	Leu	Cys	Lys	Glu	Phe	Thr	Glu	Leu	Leu	Ser	Gln	Asp	Arg	Thr	
149				360					365					370			
151	ccc	cat	ggg	acc	agc	agg	ctc	gcc	cca	gtc	ttg	gag	acg	aac	ata	cag	1327
152	Pro	His	Gly	Thr	Ser	Arg	Leu	Ala	Pro	Val	Leu	Glu	Thr	Asn	Ile	Gln	
153				375				380					385				
155	aac	tgc	ttg	tct	cat	ttc	agc	ctg	att	acc	cac	ggg	ttt	ggc	agc	cag	1375
156	Asn	Cys	Leu	Ser	His	Phe	Ser	Leu	Ile	Thr	His	Gly	Phe	Gly	Ser	Gln	
157			390				395					400					
159	gcc	atc	tgt	gcc	gcg	gtg	tct	gcc	ctg	cag	aac	tac	atc	aaa	gaa	gcc	1423
160	Ala	Ile	Cys	Ala	Ala	Val	Ser	Ala	Leu	Gln	Asn	Tyr	Ile	Lys	Glu	Ala	
161		405				410						415					
163	ctg	att	gtc	ata	gac	aaa	tcc	tac	atg	aac	cct	gga	gac	cag	agt	cca	1471
164	Leu	Ile	Val	Ile	Asp	Lys	Ser	Tyr	Met	Asn	Pro	Gly	Asp	Gln	Ser	Pro	
165	420					425					430					435	
167	gct	gat	tct	aac	aaa	acc	ctg	gag	aaa	atg	gag	aaa	cac	agg	aaa	taa	1519
168	Ala	Asp	Ser	Asn	Lys	Thr	Leu	Glu	Lys	Met	Glu	Lys	His	Arg	Lys		
169				440				445					450				
171	aattggaacg			aagaaagggtt			aggagagtag			ggaaggaaca		ggactgcaaa			aatccttctc		1579
173	caccgcacag			actgggaacc			cctcctggcc			tgggggaaga		gtttgttacc			taccttacta		1639
175	tttaaagagc			cttcactggt			tctgcatcac			ccgcccttg		acttcttagt			tgtttctcta		1699
177	gcgctgagct			atctcctaac			tttggaacct			ttatcagaag		gtgacaagta			ctggctcttt		1759
179	attcattaag			cttttttttt			ttgaacccca			ttctttcctt		ctctgaaagt			ggtgctataa		1819
181	gtttttagaat			ctttttaaata			cattccctgg			gccaacagac		ccacacactt			agccattgaa		1879
183	atgtcaaatt			gatgtgccct			agatcaacag			atcaacaata		cctttttttt			cagtgttaag		1939
185	gtaatggttg			gtttttgtgt		</											

RAW SEQUENCE LISTING

DATE: 04/23/2002

PATENT APPLICATION: US/10/023,782A

TIME: 08:40:25

Input Set : A:\RTS-343_Seq_ASCII.txt

Output Set: N:\CRF3\04232002\J023782A.raw

```

211 aaatgttccc caaataattg ttgtgtgtat gatacgtgta taataaaagt attcttgta 2779
213 gaattgaaaa aaaaaaaaaa aaaaa 2804
216 <210> SEQ ID NO: 4
217 <211> LENGTH: 27
218 <212> TYPE: DNA
219 <213> ORGANISM: Artificial Sequence
221 <220> FEATURE:
223 <223> OTHER INFORMATION: PCR Primer
225 <400> SEQUENCE: 4
226 tgtgactctc ctgacatcct tagtaga 27
229 <210> SEQ ID NO: 5
230 <211> LENGTH: 21
231 <212> TYPE: DNA
232 <213> ORGANISM: Artificial Sequence
234 <220> FEATURE:
236 <223> OTHER INFORMATION: PCR Primer
238 <400> SEQUENCE: 5
239 ggaaattcgg cttcacagac a 21
242 <210> SEQ ID NO: 6
243 <211> LENGTH: 28
244 <212> TYPE: DNA
245 <213> ORGANISM: Artificial Sequence
247 <220> FEATURE:
249 <223> OTHER INFORMATION: PCR Probe
251 <400> SEQUENCE: 6
252 agctgttcat ttggctaggg actttgcc 28
255 <210> SEQ ID NO: 7
256 <211> LENGTH: 19
257 <212> TYPE: DNA
258 <213> ORGANISM: Artificial Sequence
260 <220> FEATURE:
262 <223> OTHER INFORMATION: PCR Primer
264 <400> SEQUENCE: 7
265 gaaggtgaag gtcggagtc 19
268 <210> SEQ ID NO: 8
269 <211> LENGTH: 20
270 <212> TYPE: DNA
271 <213> ORGANISM: Artificial Sequence
273 <220> FEATURE:
275 <223> OTHER INFORMATION: PCR Primer
277 <400> SEQUENCE: 8
278 gaagatggtg atgggatttc 20
281 <210> SEQ ID NO: 9
282 <211> LENGTH: 20
283 <212> TYPE: DNA
284 <213> ORGANISM: Artificial Sequence
286 <220> FEATURE:
288 <223> OTHER INFORMATION: PCR Probe
290 <400> SEQUENCE: 9

```

RAW SEQUENCE LISTING

DATE: 04/23/2002

PATENT APPLICATION: US/10/023,782A

TIME: 08:40:25

Input Set : A:\RTS-343_Seq_ASCII.txt

Output Set: N:\CRF3\04232002\J023782A.raw

```

291 caagcttccc gttctcagcc 20
294 <210> SEQ ID NO: 10
295 <211> LENGTH: 20
296 <212> TYPE: DNA
297 <213> ORGANISM: Artificial Sequence
299 <220> FEATURE:
301 <223> OTHER INFORMATION: Antisense Oligonucleotide
303 <400> SEQUENCE: 10
304 actggacacg catcggcggc 20
307 <210> SEQ ID NO: 11
308 <211> LENGTH: 20
309 <212> TYPE: DNA
310 <213> ORGANISM: Artificial Sequence
312 <220> FEATURE:
314 <223> OTHER INFORMATION: Antisense Oligonucleotide
316 <400> SEQUENCE: 11
317 ctgtccgggt cactggacac 20
320 <210> SEQ ID NO: 12
321 <211> LENGTH: 20
322 <212> TYPE: DNA
323 <213> ORGANISM: Artificial Sequence
325 <220> FEATURE:
327 <223> OTHER INFORMATION: Antisense Oligonucleotide
329 <400> SEQUENCE: 12
330 ggccttgctg tccgggtcac 20
333 <210> SEQ ID NO: 13
334 <211> LENGTH: 20
335 <212> TYPE: DNA
336 <213> ORGANISM: Artificial Sequence
338 <220> FEATURE:
340 <223> OTHER INFORMATION: Antisense Oligonucleotide
342 <400> SEQUENCE: 13
343 gaccaggcgt ctgccgccgc 20
346 <210> SEQ ID NO: 14
347 <211> LENGTH: 20
348 <212> TYPE: DNA
349 <213> ORGANISM: Artificial Sequence
351 <220> FEATURE:
353 <223> OTHER INFORMATION: Antisense Oligonucleotide
355 <400> SEQUENCE: 14
356 gggtcacggt gaccaggcgt 20
359 <210> SEQ ID NO: 15
360 <211> LENGTH: 20
361 <212> TYPE: DNA
362 <213> ORGANISM: Artificial Sequence
364 <220> FEATURE:
366 <223> OTHER INFORMATION: Antisense Oligonucleotide
368 <400> SEQUENCE: 15
369 caagcggtaa atccaaaatc 20

```

VERIFICATION SUMMARY

DATE: 04/23/2002

PATENT APPLICATION: US/10/023,782A

TIME: 08:40:26

Input Set : A:\RTS-343_Seq_ASCII.txt

Output Set: N:\CRF3\04232002\J023782A.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date